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FURTHER NOTE ON LATEX HYDROMETER

By B. J. Eaton.

This note is published on account of the fact that the writer finds that Messrs. J. J. Griffin and Sons have been sending the wrong type of hydrometer to local firms and planters and not the latest type which are constructed more acurately.

The type of hydrometer issued by Messrs. Griffin and Sons has a stem of only about 4½ inches extending over graduations from 0·9800 to 1·0000, and the smallest divisions represent a density of 0·0005 or nearly 1 per cent of rubber in latex, making it more difficult to read a rubber content of less than 0·5 per cent. In the type described in the article published in April (Vol. II, No. 9), the graduations between 0·9800 and 1·0000 extend over a stem of approximately 7 inches and the smallest divisions represent a density of 0·0002 or about 0·3 per cent of rubber in latex; making the instrument much more accurate. Messrs. Griffin and Sons have been informed of the error, which will be rectified.

In the next issue a table shewing latex densities and rubber content will be given. As there was a slight inaccuracy in the hydrometer used, this has been corrected and controlled accurately with direct determinations made in a special specific gravity bottle and the results are remarkably concordant.

As the graduations do not appear to be properly understood a full table will be given in the next issue and it is intended to issue this table also with each hydrometer.

PRELIMINARY LIST OF INSECTS COLLECTED IN THE FEDERATED MALAY STATES.

By C. B. Holman Hunt.

The following Beetles belonging to the Passalidæ have been identified by Mr. F. H. Gravely of the Indian Museum, Calcutta to whom the Department is much indebted for his kindness.

Passalidæ.

Taeniocerus bicuspis, Kaup.	? ?	Plains.
Ophryogonius inaequalis, (Burm.)	Ulu Gombak, Selangor.	,,
* ,, n. sp.	Maxwell's Hill, Perak.	3400 feet.
Aceraius perakensis, Kniv.	,, ,, ,,	3400 ,,
* ,, grandis, var rectidens (Burm.)	Gap, Selangor-Pahang.	2700 ,,
,, laevicollis, Illig.	Ulu Gombak, Selangor.	Plains.
,, aluteosternus, Kniv.	Bukit Kutu, Selangor.	3300 feet.
* ,, helferi, ? Kniv.	Ulu Gombak, Selangor.	Plains.
,, borneanus, Kaup.	,, ,,	,,
* ,, ,, ? Kaup.	,, ,,	,,
Macrolinus latipennis, (Perch.)	Maxwell's Hill, Perak.	3400 feet.

The Passalidæ are found in rotten wood.

The species marked with asterisk are rare or new. Any one who cares to collect beetles of this family will be doing very useful work, especially if he will send complete families with larvae and pupae in spirits and whole colonies in the case of gregarious species.

The Insects, in this and the subsequent articles of this paper, were captured in the Federated Malay States, and identified by me at the Natural History branch of the British Museum during my furlough. I have to tender my thanks to the members of the Staff there for their kind assistance. Where known, one locality only has been recorded. It does not however follow that the species is confined to this district. Many are widely distributed.

Lucanidæ.

*Odontolabis castlenaui, Parry.	? ?	plains.
,, femoralis, Waterh.	Bukit Kutu, Selangor.	3300 feet.
,, dalmanni, Hope.	Riverside Estate, Selangor.	plains.
,, sp.	Gap, Selangor-Pahang.	2700 feet.
*Metopodontus zebra, Oliv.	Ulu Gombak, Selangor.	plains.
*Cyclommatus luniger, Boil.	Maxwell's Hill, Perak.	3400 feet.
*Hemisodorus rufus, Boil.	Gap, Selangor-Pahang.	2700 feet.
*Dorcus nr. hopei, Saund.	,, ,,	2700 ,,
Dytomoderus mirabilis, Parry.	Ulu Gombak, Selangor.	plains.

Coprides.

Onitis corydon, Boisd.	? ?	plains.
Trox costatus, Wiede.	Batu Caves, Selangor.	,,

Melolonthides.

Lachnosterna bidentata, Burm.	? ?	plains.
Lepidiota nummicudens, Newm.	? ?	,,
Hoplia bowringi, Waterh.	Maxwell's Hill, Perak.	3400 feet.
,, aurata, Waterh.	,, ,,	3400 feet.
Exopholis hypoleuca, Wiede.	Bukit Kutu, Selangor.	3300 ,,
*Serica sp.	Maxwell's Hill, Perak,	3400 ,,

Rutelides.

Anomala cupripes, ? Hope.	Ulu Gombak, Selangor.	plains.
,, antiqua, Gylb.	? ?	,,
,, nr. citrina, Lansb.	? ?	,,
,, aureola, Hope.	Maxwell's Hill, Perak.	3400 feet.
,, semipurpurea, ? Burm.	Kuala Lumpur, Selangor.	plains.
*Spilota nr. burmesteri, Lansb.	? ?	,,
,, & tigrina, Noutr.		
*Mimela nr. debilis, Sharp.	Maxwell's Hill, Perak.	3400 feet.
,, discoidea, Burm.	,, ,,	3400 ,,
*Parastasia nr. bipunctata, Westw.	Bukit Kutu, Selangor.	3300 ,,
*Adoretus nr. suretus, Chaus.	Kuala Lumpur, Selangor.	plains.
Popilia feae, black var, Kr.	Gap, Selangor-Pahang.	2700 feet.

Dynastides.

Chalcosoma atlas, Linn.	Riverside Estate, K. Selangor.	plains.
Trichogomphus lunicollis, Burm.	? ?	,,
,, simsoni, Vollem.	Gap, Selangor-Pahang.	2700 feet.
Xylotrupes gideoni, Linn.	Teluk Anson, Perak.	plains.
Clyster trachypygus, Bell.	Klang, Selangor.	,,
Oryctes rhinoceros.	,, ,,	,,

Cetoniides.

Agestrata orichalcea, de Geer.	Riverside Estate, K. Selangor.	plains.
Macronota malabariensis, G. & P.	Kuala Kubu, Selangor.	plains.
,, monacha, G & P.	Batu Tiga, Selangor.	,,
Glycyphana sinuata, Wall.	Kepong, Selangor.	,,
Protaetia acuminata, Fab.	,, ,,	,,
,, fusca, Herbst.	Kuala Lumpur, Selangor.	,,
*Plectrone tristis, green var, Westw.	? ?	,,

Cicindelidæ.

Cicindela aurulenta, Fab.	Bukit Kutu, Selangor.	3300 feet.
,, fuliginosa, Dej.	Kuala Lumpur, Selangor.	plains.
,, versicolor, Macl.	? ?	,,
Heptadonta analis, Fab.	Bukit Kutu, Selangor.	3300 feet.
Therates wallacei, Thom.	? ?	plains.

Carabidæ.

Anchomenus sp.	? ?	plains.
*Orthogonius hopei, Grey.	? ?	,,
,, sp.	? ?	,,
*Casnonia sp.	Parit Buntar, Perak.	,,
Mormolyce phyllodes, Hagen.	Batang Benar. ,,	,,

(To be continued.)

RUBBER YIELDS FROM THICK AND THIN BARKED RUBBER TREES.

By F. G. Spring.

It is well known that some trees of either the thick or the thin barked type may be prolific yielders or the reverse, consequently it is difficult, on a small scale, to obtain reliable figures in a test comparing the yields of thick and thin barked rubber trees. The results of an experiment, in this connection, conducted at Kuala Lumpur Government Plantation, may however be of some interest, and although no definite deduction can be drawn it would perhaps tend to show that there is no appreciable difference, if any, between the yields of rubber obtained from thin and thick barked trees as such.

	Thick Barked Trees	Thin Barked Trees
No. of trees	25	25
Average bark thickness per tree	.87 c. m.	.71 c. m.
Yield for eleven months, Latex Rubber	37 lbs. 12½ ozs.	35 lbs. 14 ozs.
do. do. do. Scrap do.	11 lbs. 10½ ozs.	11 lbs. 2½ ozs.
Total Latex Rubber & Scrap	49 lbs. 7 ozs.	47 lbs. ½ oz.

A similar system of tapping was conducted in both plots, the trees were not tapped previous to the commencement of this experiment. The bark thickness was taken in a relative position in each tree. The age of the rubber is about five years old.

Reference to the tables will show that the thick barked trees yield 49 lbs. 7ozs. rubber while the thin barked trees yield 47 lbs. ½ oz., this difference is well within the limits of experimental error.

SUMMARY OF LOCUST WORK MARCH 12 TO APRIL 30, 1914. SELANGOR.

By F. W. South.

The destruction work at Kalong was finished on March 13th: the final remnants of the swarms being destroyed, so that practically no locusts were left north of Kuala Lumpur. On March 12th one Special Assistant was transferred to Kajang and took charge of the destruction work in that neighbourhood. The other remained

in the district between Kuala Lumpur on the north and Cheras and Serdang on the South, the work being principally at Serdang and Sungei Besi. On March 31st destruction work ceased as all the hoppers that had not been destroyed had then escaped as fliers. During the period from March 12-31 in the Kajang district the largest number of gangs at work in one day was 14 and the largest catch recorded in one day was 868 kerosene tins full. The results may be summarised as follows.

Kalong March 12 and 13	..	80 tins.
Kajang March 12-31	..	6404 tins.
Serdang March 21-28	..	332 tins.
S. Besi March 16-31	..	1315 tins.
Total	..	8131 tins.

The total catch for the hopper season February 13 to March 31st was:—

U. Yam Bahru, S. Choh and Kalong Feb. 13 to Mch. 13	2150 tins.
Petaling, S. Besi and Serdang Feb. 23 to March 31 ..	2891 tins.
Kajang district to Cheras and Serdang Mch. 12-31 ..	6404 tins.
Total ..	11,445 tins.

During the early part of April scouting work for flying swarms occupied the attention of the staff and it was found that about 8 flying swarms occurred around Kuala Lumpur and 13 around Kajang. The majority of these were quite small. Some of the Kajang swarms appeared to have come up recently from the south.

On April the 18th a big swarm of fliers appeared at the 5th mile on the Ulu Klang Road and a breeding ground was found at the 8th mile on the same road on April 21st: on April 22nd a big swarm of fliers appeared on the Rifle Range. On April 27th to 30th hoppers were found at the 4½ and 8th miles on the Ulu Klang Road. These breeding grounds and hoppers are difficult to account for as they could not represent the offspring of flying locusts that escaped from the previous generation of hoppers in February and March, for the reason that the time that had elapsed between the escape of the fliers and the appearance of these hoppers was too short to allow the former to come to complete maturity and produce eggs. It is possible that these big mature flying swarms were connected with two big swarms that disappeared in the jungle at the end of January one between Klang Gates and Ulu Pudu and the other near Dusun Tua. At the end of the month preparations were being made to deal with these hoppers belonging to what must be regarded as an intermediate generation.

The Negri Sembilan.

The destruction work in this State during the last fortnight of March may be summarised as follows.

Seremban District, Ulu Kanchong March 16-28 ..	20 tins.
Coast. Linggi, Sua Betong and Ayer Kuning March 15-28	137 tins.
Tampin. Tampin Town, Keru, 30th Mile Tampin Road March 28-31	50 tins.
Total ..	207 tins.

In the Seremban District hoppers extending over approximately 16 acres were successfully poisoned. In the Coast District large swarms of hoppers were expected in the localities mentioned above as large flying swarms apparently from Malacca had laid there. Fliers were record in the Kuala Pilah district at Bahau, Kuala Jelei and Kuala Pilah town.

During the first fortnight of April the catches recorded were:—

Seremban District, Ulu Kanchong and Linggi March 30 to April 12	62 tins.
Coast District, Ayer Kuning and Siliau	114 tins.
Tampin District, Keru and Tampin town April 1-15	532 tins.
Total ..	708 tins.

In the Seremban District 12 acres of hoppers were successfully poisoned. One swarm of fliers was found on the Negri Sembilan boundary, no others were north of Seremban. Poisoning in the Coast district was not undertaken on account of the difficulty of procuring molasses.

During the last fortnight of April the catches were:—

Seremban District, Linggi Plantations April 13-25 ..	556 tins.
Coast District, Ayer Kuning, Sua Betong and Jemima Estate April 13-25	785 tins.
Tampin District, Tampin town, Keru, Keru Road and Gemencheh April 16-30	639 tins.
Total ..	1424 tins.

In the Seremban district about 7 acres of hoppers were successfully poisoned. Fliers appeared on the Labu Road and on the Setul pass. In the Tampin district the situation was very bad and the whole country from Tampin to Gemencheh was full of locusts both in the Negri Sembilan and Malacca. Parts of this district are very difficult of access and one gang of coolies had to be kept in tents at Pondoy. The Kuala Pilah district was free

from hoppers. The results in the Negri Sembilan during the period may be summarised as follows.

Seremban Dist., March 16 to April 26	638 tins 35 acres poisoned.
Coast District, March 16 to April 26	480 tins
Tampin Dist., March 16 to April 30	1221 tins
Total ..	2339 tins, 35 acres poisoned.

The situation in the south of the State was very bad at the end of April as all the country on the boundary of Malacca from Tampin eastward was full of hoppers. The Swarms continue to be small on an average as compared with those in Selangor, the usual size of a swarm being from 4 to 10 kerosene tins full with a few catches amounting to 70 tins. Though small the swarms are often very numerous and are frequently scattered over a comparatively limited area. The constant removal of apparatus necessitated by this naturally increase the time required for catching, while it has been found, in addition, that a large swarm can be dealt with almost as fast as a small one, provided the ground is not difficult.

An interesting feature of the work in the Seremban district has been the success of the method of spraying poisons on the grass on which the locusts are feeding. This has resulted in the destruction of from 60-100 per cent of a swarm according to the conditions under which the work has been done. The handicap to the general adoption of this method has been the difficulty of obtaining molasses; a coarse cheap sugar at 8 to 10 cents per kati has been used as a substitute, but is not so satisfactory. There is no doubt that for small swarms scattered over large areas of lalang the spraying method is far the quickest and most successful. Attempts are being made to obtain a satisfactory supply of molasses. When this is done, the spraying method will be widely adopted in all cases where hoppers have to be destroyed in large stretches of open lalang land, except where the use of poisons is dangerous.

DYNAMITE EXPERIMENT.

By F. G. Spring.

It may be remembered that in October of last year a demonstration, on the use of explosives as applied in rubber cultivation, was given at the Experimental Plantation Kuala Lumpur by Mr. MacQueen, representing Noble's Explosives Company, Ltd., of Glasgow. The results in this article are those obtained from an area which Mr. MacQueen subjected to gelignite charges.

The land on which the experiment was carried out is of a poor laterite nature, and the rubber very backward in growth, four year old trees measuring about 12 inches in girth, three feet from the ground.

Three rows of rubber, running the length of the field, and each containing 34 trees were selected, one row being the dynamite plot while the other two acted as controls. The cartridges were placed at a depth of about 2½ feet below the surface of the ground, one cartridge between two trees 12½ feet apart. (Distance of planting 12½ ft. by 25 ft.) The method of firing was by means of fuses and detonators.

It is unfortunate that this particular soil is not one which would be expected to give the best results, subsoils of a clay nature should respond better to the use of explosives. An experiment on a very much larger scale is being conducted at Castleton Estate, Teluk Anson, where the soil is of a heavier type. Below is a record of the figures in respect of the experiment conducted at Kuala Lumpur.

Date of application of dynamite 24th October, 1913.

	Dynamite Plot	Control No. 1	Control No. 2
Average girth measured 3ft from ground on 30th October, 1913.	9·75 ins.	9·5 ins	10·25 ins.
Average girth measured 3ft. from ground on 9th June, 1914.	12·31 ins.	11·31 ins.	11·87 ins.
Average girth increase from 30th Oct., 1913, to 9th June 1914.	2·56 ins.	1·81 ins.	1·62 ins.

It will be seen that in the dynamite plot the average girth increase, over a period of seven months and a few days, amounts to 2·56 ins. while in control No. 1, the increase is 1·81 ins. and in No. 2, 1·62 ins. It might here be stated that control No. 1 is adjacent to the dnyamite plot while No. 2 is some distance away.

I would not care to say definitely that the excess in girth increase over the control plots is due to the effect of dynamite, but as the area in which the experiment was conducted shows more or less uniform growth throughout, and bearing in mind that one of the controls had the largest average girth at the commencement it would appear that the explosive had good effect even on this soil, whether it is profitable will depend on how long the beneficial effects last. It is intended to remeasure the trees in a few months time.

With regard to the cost of application, 15 cents per charge, inclusive of labour, would perhaps be a reasonable figure, one charge per tree is generally what is allowed.

1. The minutes of the Meeting held on April 26th are considered seriatim, confirmed and signed.

2. London (1914) Exhibition.

The *Secretary* reports having to date received $8636.51 and that further promises for about $1700 were still outstanding. $2000 had so far been advanced to the Director of Agriculture on account of the £1000 guaranteed by the Association.

He further reports that Mr. H. M. Darby had cabled on the 19th inst. "Regret unwell, appoint another delegate" and that, as instructed by the Chairman, he had replied suggesting Mr. C. E. S. Baxendale as a substitute. Approved.

3. Madura Co., Ltd.

The Secretary reads a letter from the Secretary of the Central Perak D. P. A. on the subject of recruiting charges in which Mr. W. Kellie Smith moved that this Association ask the P. A. M. to take up the question of Binny & Co's and the Madura Co's charges, with a view to having a fixed inclusive charge, such figure not to exceed one rupee per coolie shipped, and to eliminate all commissions.

It was pointed out that last year's arrivals numbered 118, 583, and that such an enormous increase warrants a reduction of charges. and it was hoped that the P. A. M. will be able to take this matter up.

It was proposed by the Hon. *Mr. Skinner* and seconded by Mr. Dupuis Brown that this letter be forwarded to the Indian Immigration Committee with a request to go into the matter.

Mr. Newton of the Madura Co. suggested that before any decision was arrived at a deputation of planters should go to India and acquaint themselves with the nature and amount of work done by his company, adding that the company would be pleased to pay all expenses in connection with such a visit.

Mr. Tayler points out that immigration had probably reached high water mark last year and that with decreasing numbers, the remuneration of the Madura Co. would also tend to become less.

Mr. Macfadyen welcomes Mr. Newton's generous offer, saying that they would all admit they were under immense obligations to their agents in India in the past, and that these latter had every right to expect that the Association would not precipitately commit themselves to an expression of opinion that the charges were excessive.

He would suggest that the Secretary consult with Mr. Newton and endeavour to arrange for a small deputation to go over to India

and on their return submit a report on the matter to the Standing Committee, who would then take up the question with the Indian Immigration Committee, or not, as they deemed advisable.

On the proposal of *Mr. Prior*, seconded by *Mr. Bruce*, the Chairman's suggestion is adopted.

4. Assistants' Register.

A letter from the Batang Padang D. P. A. was read, suggesting the establishment of a register under the auspices of the P. A. M. for unemployed planters.

As a rough idea of organisation the formation of a sub-committee on the following lines was suggested in the letter:—

Chairman:—To be elected from members of the sub-committee

Secretary:—Secretary of the P. A. M.

Members (11) consisting of the chairman of a District Association from each State thus:—(1) Perak, (2) Selangor, (3) Negri Sembilan, (4) Province Wellesley, (5) Malacca, (6) Johore, (7) Singapore, (8) Pahang, (9) Kedah, (10) A Visiting Agent who has given up practical planting, (11) a representative of a well known firm of agents.

A registration fee according to the following scale to be deposited by applicants:—

(*a*) Managership—$20, (*b*) Superintendent in charge—$15, (*c*) First Assistantship—$10, (*d*) Second assistantship—$5; employers to pay a similar sum on being suited and a further similar sum after 3 months; employers can also register vacancies. Full enquiries, which should be confidential, to be made in each case, by the Committee. The number of applicants and vacancies on the register to be published monthly in the *Agricultural Bulletin*.

Mr. Macfadyen denied the statement attributed to him that there were over 200 planters out of employment, and stated that in his opinion, the number had been much exaggerated and that there was a demand in excess of the supply for junior appointments.

Although welcoming the idea of a register, he considered it would be entirely outside the province of the P. A. M. to assume responsibility for the qualifications of applicants.

Mr. Mooijaart considers that the case would be scarcely met by the Secretary forwarding a list of names on the register to employers, without any expression of opinion as to the suitability of the candidate and suggests that the D. P. A's accept the onus of the recommendations.

NOTE ON THE CAMPHOR MARKET.

By B. J. Eaton.

Recent literature on Camphor production appears to indicate that any rise in price of the natural product will be met by the output of larger quantities of the synthetic product. The price of Japanese monopoly camphor, for some time, has been about 135 *s.* (shillings) per cwt. c.i.f. for "B." and 142/6 (shillings) for "B.B." grade and opinions are expressed that prices are not likely to advance. At the same time, for small samples of crude offered from outside sources, 175 *s.* per cwt. has been asked for Japanese "B.B." flowers and for China crude 157/6 c.i.f. The manufacturers of synthetic are said to be meeting with fair success and in the U. S. A. it is stated that the makers have been able to reach the present basis of cost of the refined product, while in Germany it is said that synthetic camphor has been brought on the market at a cost of production of 80 *s.* per cwt. The continued success of the synthetic product depends however on the cost of the raw material, turpentine, which shows a tendency to rise, unless some other raw material can be found as a starting point. On account of the Japanese monopoly, it is said to be more profitable to obtain the refined material from Japan than to purchase crude and refine it in Europe. The demand for fine camphor recently has increased and the price has risen consequently to 1/8 per lb. with prospect of a further advance. It is considered unlikely however that the high prices ruling in 1907 will be reached again, as the policy of the Japanese Government must be to eliminate the synthetic product.

Experiments in planting camphor trees appear to have been started on a large scale in several of the Japanese islands, and to have been successful, and the monopoly authorities state that sufficient trees are being planted to compensate for those cut down. The revenue derived from the camphor monopoly however does not appear to be very great; in fact it is described as a financial failure, which may be due to the competition of the synthetic product.

Experiments in Japan on a large scale are also being carried out by distilling the leaves, as has been done in this country and in German East Africa, Ceylon and California. The leaves are easy to transport and a central distilling station has been suggested.

Experiments on a large scale at Amani, German East Africa, in the distillation of leaves, have been discontinued owing to the lack of means of acquiring a suitable modern still and of defraying cost of distilling.

This seems strange in view of the Government financial support which is usually given in Germany for scientific work.

A World's Camphor Trust is stated, in Schimmel's Semi-Annual Report (April 1914), to be contemplated.

MINUTES OF MEETING OF THE PLANTERS' ASSOCIATION OF MALAYA,

Held at the Chamber of Commerce, Kuala Lumpur, on June 28th, 1914, at 10.45 a.m.

PRESENT:

Chairman: The Hon: Mr. E. Macfadyen
Secretary: Mr. H. C. E. Zacharias.

Delegates:—

Bagan Datoh D. P. A.: Messrs. R. H. W. Davidson, R. G. Bayley, E. Enfield Lawford.
Batang Padang D. P. A.: Messrs. F. J. Ayris, T. H. Stewart.
Batu Tiga D. P. A.: Mr. T. C. Cumming.
Johore P. A.: Mr. R. J. C. Jewitt.
Kajang D. P. A.: Messrs. C. Burn-Murdoch, P. F. Wise, R. C. M. Kindersley.
Kapar D. P. A.: Mr. L. Mooijaart.
Klang D. P. A.: Messrs. E. W. Harvey, E. B. Prior, E. C. Wakefield.
Kuala Langat D. P. A.: Messrs. R. W. Munro, J. H. Cotterill,
Kuala Lumpur D. P. A.: The Hon: Mr. E. B. Skinner, Messrs. A. J. Fox, F. Clyde-Jeavons, H. Armstrong.
Kuala Selangor D. P. A.: Messrs. Thos. H. Menzies, C. W. Bradburne, L. A. Irving, E. D. Money.
Malacca P. A.: Mr. J. W. Campbell.
Negri Sembilan P. A.: Messrs. J. Bruce, S. S. Crisp, V. A. Tayler, A. Dupuis Brown, A. Davidson, J. D. McCulloch, P. W. N. Farquharson.
Taiping D. P. A.: Messrs. H. de Z. Lancaster, A. Waterfield.
Ulu Selangor D. P. A.: Mr. M. P. Kennaway.

Honorary Members:—

Messrs. L. Lewton-Brain, (Director of Agriculture) and E. S. Hose, (Ag: Controller of Labour).

Visitors:—Messrs. C. G. Newton (Madura Co. Ltd.), H. R. Quartley, W. G. Dobson, W. H. Trotter, C. J. Arnold, F. G. Harvey, H. C. D'Arcy-Irvine, M. Sharpe-Smith, J. M. Booth, and J. G. Cruickshank.

that the Home Government was not exhibiting officially and that it was not a special trade exhibition. He pointed out that it was quite hopeless for the P. A. M. to undertake an exhibit on its own account. This was agreed to.

8. Rat Pest in Bagan Datoh District.

Correspondence from the Chairman of the P. A. M. to the Chief Secretary F. M. S. and the Secretary P. A. M. to the Under Secretary F. M. S. on the subject of the rat pest and drainage in the Bagan Datoh district was read.

Mr. Macfadyen suggested the following recommendations in his letter:—

1. that an Agricultural Inspector be stationed in the neighbourhood until the rat plague has been got under control.
2. that such officer be given legal powers enabling him to deal with the plague whether on European-owned or native holdings.
3. that from the beginning he be provided with sufficient funds.
4. that every effort be made to arrange for the manufacture locally of Liverpool Virus.
5. that the control of outlet-drains and water-gates be placed under a drainage board containing representatives of the estates interested.
6. that the sums of money actually spent by various estates on drains now taken over by Government be refunded to the estates in full.

Mr. Cruickshank, at the request of the chairman, then addressed the meeting on the subject, stating that the matter had been brought up at the previous meeting by Mr. Counsel, then Chairman of the Bagan Datoh D. P. A. He informed the meeting that the Chief Secretary had received them sympathetically and assured them that an officer of the Agricultural Department would be sent to the district as soon as possible with sufficient power to deal with the rats on European estates and on the native holdings from which it was suggested the rats emanated, and that a sum of $5,000 should be provided for the campaign.

The planters of the district promised their co-operation. As far as he knew no such officer had yet been sent. The question of a supply of Liverpool virus was also mentioned and he understood enquiries were being made from the local medical authorities and in the event of them not being able to supply the virus, enquiries to be made from India.

He stated that this year 35,000 rats including about 65 per cent female had been destroyed by means of traps and a pack of hunting dogs.

As to the question of drainage, at a recent meeting the Acting Resident of Perak was of opinion that the Government officers were doing all that was necessary. The planters in the district thought otherwise and asked the P. A. M. to back them up, in asking for a board similar to that in the Kapar district. A grievance was also raised, in connection with the Government proposal to pay the estates for the drains already cut; it was pointed out that payment was made on measurements carried out two years after the drains were cut, by which time they had silted up considerably and the refund was consequently less than the cost.

Mr. Lawford thanked Mr. Cruickshank for his remarks and proposed the following resolution:—

With reference to the points discussed at an interview granted by the Chief Secretary to a Sub-Committee of the Standing Committee of this Association on 13th inst. this Association desires to press upon Government the urgency of the various matters referred to in the Chairman's letter of that date addressed to the Chief Secretary, and also the particular importance of improving transport, postal and telegraph facilities in Bagan Datoh District in the immediate future.

Mr. Munro supported the remarks regarding the urgency of the situation and seconds the proposal, which was carried unanimously.

9. Repatriation of Unfit Indian Immigrants.

Correspondence between the Ag. Controller of Labour and the B. I. Steam Navigation Co., on the subject of repatriation of unfit coolies, which had been forwarded to the Secretary P. A. M. was read. The B. I. S. N. Co. offered to give free passages to India to all coolies who through no fault of their own, landed unfit for labour or became unfit within one month and passage at a reduced rate of $6.25 for adults and $3.25 for minors (including shipping and landing charges) to all other coolies who became unfit within six months of joining an estate; such coolies to be shipped under the charge of the Controller of Labour and to be taken charge of by the Emigration officers at Negapatam or Madras on arrival in India and forwarded to their homes at the expense of the estate; certificates for such passage to be signed by the Manager of the estate, and Government doctor. The Ag. Controller of Labour in his reply stated that the Indian Immigration Committee, while appreciating the generosity of the offer, were of opinion that the

It was proposed by *Mr. Campbell* seconded by *Mr. Ayris* and carried that the matter be referred to the Standing Committee for action, if necessary.

5. Secretary.

The question of the Secretary's salary postponed from the last meeting was brought up.

It was proposed by *Mr. Skinner* and seconded by *Mr. Macfadyen* that the Secretary's salary for the current financial year be $3,000. The motion is carried unanimously.

Mr. Cruickshank was informed that this did not create a precedent, as the Secretary's salary is presented and voted on annually as one of the items of the budget.

6. Truck Enactment.

Correspondence between the Under Secretary F. M. S. and the Secretary P. A. M. on the subject of amendments to the Truck Enactment was read.

Mr. Skinner said that he and Mr. Macfadyen had been appointed a sub-committee to draft a reply to the Government report on the subject. He regretted the delay and submitted their report herewith.

"Report of the Sub-Committee Appointed to Consider the Question of Amending the Sections Dealing with the Truck System in the Labour Code of 1913."

"The report of the Committee appointed to inquire into the truck system, which is contained in paper No. 13 of 1913, has been carefully considered.

"1. *Compulsory feeding of New Arrivals.* In section 7 of the Committee's report it is recommended that a section should be inserted requiring every employer to supply every immigrant in his employ, who has arrived in the country for the first time within the preceding four months, with cooked rations according to a prescribed scale, and deduct the actual cost of such rations up to a fixed maximum, from the employee's wages.

"Whilst admitting that the feeding of new coolies on estates where the health is not good has had a most salutary effect, we submit that the system would, if insisted on in all cases without exception, constitute a very real grievance.

"We agree with the remarks made in the Secretary's letter of the 16th of July 1913 to the Under Secretary, and consider that compulsory feeding of Indian Immigrants on all estates is quite unnecessary.

"2. *Sanction of the Chief Secretary.* We understand that the Government do not desire that the requisitions for compulsory feeding should be made with the knowledge and sanction of the Chief Secretary.

"We feel that to leave unrestricted powers in the hands of the Controller might lead to hardship, so we would suggest that where an employer so elects, the power of the Controller to order compulsory feeding of coolies shall only be insisted on after consultation with the Advisory Rural Boards.

"3. *Estate Shops.* On page 5 of the Committee's report, in section 10, it is suggested that the sale of rice might be allowed at a tariff approved by the Controller, even in cases where the estate is not two miles distant from a town or village. Whilst appreciating this concession, we do not consider that in practice, a shop would be opened for the sale of rice only, as the shop-keeper would not consider the inducement sufficient. We can see no reason at all why any estate should not be permitted to have a shop situated on its own land, as the shop could then be under the supervision of the Manager and the standard of food and rice could be efficiently controlled.

"We strongly recommend that the enactment be altered so that any estate may have a shop of its own.

"4. *Supply of Rice.* The Labour Code should be amended to allow of all estates where rice is supplied direct by the employer to deduct the cost of rice from the wages of the labourer in the Check Roll. This system has been in force for many years, and, in principle, has received the sanction of the Government, but it has never been legalised, and we consider it most important that it should be. Provision can be made in the Enactment that rice can only be supplied and deducted from the wages with the permission of the Controller of Labour, and at a rate to be fixed by him.

"5. *Committee's Report on the Truck System.* Subject to the amendments proposed as above, we consider that the recommendation made by the Committee should be carried out as soon as possible."

Sgd. E. Macfadyen.
„ E. B. Skinner.

Mr. Prior proposes, *Mr. McCulloch* seconds and it is carried unanimously that the Sub-Committee's Report, as read, be adopted and submitted to the Government.

7. Panama-Pacific Exposition.

Mr. Macfadyen stated that it had been defined decided that the F. M. S. Government would not be represented; on the grounds

scheme was open to grave abuse and might create a tendency to relax the care which should be exercised in selecting coolies for employment.

A letter sent by a member to the Central Perak D. P. A. was read on the subject of the lack of provision of medical examination of Kangany recruited coolies at Negapatam, Kangany licences and recruiting commissions.

It was pointed out that any estate requiring such coolies to be medically examined had to pay a fee of R1-00 per coolie.

It was also proposed at the same meeting of the above D. P. A. that Associations affiliated to the P. A. M. be asked to combine to agitate for a medical examination of coolies in India before shipment, the expenses of such examination to be borne by the Indian Immigration Department.

On *Mr. Skinner's* suggestion, *Mr. Hose* was asked to express his opinion and stated that a cursory examination took place at Negapatam, coolies' hands being examined to see if they were used to agricultural labour and coolies in poor condition were rejected. He considers that employers would soon regret it, if they insisted on a more stringent examination. It was not possible always to tell the effect of a voyage and in some cases latent diseases were possibly overlooked. Any estate requiring extra medical examination of coolies could obtain it. No action was taken.

10. Kelantan.

A letter from the chairman of the Kelantan P. A. to the Secretary P. A. M. was read, the contents of which are briefly as follows:—

Labour:—All the labour till the middle of 1913 was practically all indentured Chinese, and it was admitted generally that the coolies were admirably treated. The new amendment of the Labour Code of Kelantan which was based on that of the F. M. S. was considered to give too arbitrary powers to the only Medical authority in the State.

Custom Duties:—The high custom duties were mentioned and the high cost of living in Kelantan, it being considered that the present duties on many of the necessities of life are unduly hard on rubber companies who are the main employers of labour and the main source of the country's revenue.

State Council Representative:—A petition that there should be an unofficial representative on the State Council had been refused.

Facilities in Kelantan:—The want of a European hospital and the inadequate police force and absence of an inspector in the

planting district were pointed out, also the lack of roads for vehicular traffic in the district, river transport being precarious, as the Kelantan River is only navigable at certain periods for shallow draft vessels.

Federation:—On account of these grievances the planters of Kelantan are therefore desirous that the State should be brought within the Federation and are about to petition the Sultan accordingly.

11. Rules.

The following proposals were received by the Secretary for the alteration of Rule 17:—

(*a*) By Negri Sembilan P. A.:—

"The Association shall at every Annual Meeting elect ten of its members as a Standing Committee with power for such Standing Committee to add to its number."

(*b*) By Kuala Langat D. P. A.:—

"The Standing Committee shall consist of the Chairman of each Constituent Association in conjunction with any other member or members elected at the Annual General Meeting."

A letter on the same subject from Kampong Batu, N. S. to the Chairman P. A. M. was also read; the suggestions made in the letter were as follows:—

(*a*) That each State, or District in the case of a State having Sub-divisions with Local Committees of control, be allotted according to its rights of representation, a fixed number of members on the Standing or General Committee of the Association.

(*b*) That the Chairman of the various sub-committees be, ex officio, members of the General Committee; and that the other representative or representatives of each State or District be elected by the Local Committees from amongst their own membership.

Mr. Tayler withdrew the Negri Sembilan proposals in favour of the Kuala Langat one. He considered that 24 members (19 chairmen and 5 others) were not too many for a committee representing such large interests.

Mr. Munro seconded the Kuala Langat D. P. A.'s proposals and mentioned that there was, at present, not a single planter from any of the Coast Districts of Selangor on the Standing Committee. He feels the fear that 24 would be an unwieldy number to the groundless, as it was certain that all members would not attend.

Mr. Skinner reminded the meeting of the former custom of appointing planters from all over the country to the Standing Committee, which had been abandoned owing to the difficulty of getting men together. The Committee was purely advisory and had no inherent power to act independently.

Mr. Dupuis Brown supported Mr. Skinner and as the originator of the Committee stated that his original idea of a Committee was opposed strongly on the grounds that such a committee would encroach on the dignity and usefulness of the P. A. M.; he considered the new proposal would tend more strongly to do this.

Mr. Campbell thought that every Chairman of a district should have an opportunity of attending the Committee when any subject closely affecting his district was brought up and *Mr. Irving* thought it would add usefulness to the local Chairman.

Mr. Macfadyen opposed the idea strongly, stating that the Committee was entirely an Emergency Committee. There had recently been a tendency for the Committee to arrogate to itself the duties of the P. A. M. and this had been noticed and stopped. He thought this tendency would increase still more with a large and representative Committee. He considered the P. A. M. the only true representative Committee and would like to see them revert to the two-monthly instead of quarterly meetings.

The motion for the alteration to Rule 17 was then put to the meeting and lost.

12. Indian Immigration.

Mr. Wakefield and *Mr. Ayris* draw attention to the corrupt practices of watchmen at Indian Stations, who refuse to allow coolie to entrain unless bribed.

Mr. Hose (Ag: Controller of Labour) said he thought such practices did occur and they received the attention of the Indian Immigration Committee who would do their best to deal with actual cases brought to their notice.

Mr. Newton (Madura Co.) said his company would take action if the Kanganies reported such cases.

Mr. Macfadyen stated that progress was being made in connection with the establishment of direct communication with Cocanada.

13. Reduction of Wages.

A letter from the Kajang D. P. A. to the Secretary P. A. M. was read, stating that this Association now wished to work down to the pay of Tamils, stated in the resolution passed by it on November 7th and asking what help the P. A. M. could give.

Mr. Burn-Murdoch withdraws the matter.

14. Absconding.

A letter from the Kuala Selangor D. P. A. to the Secretary P. A. M. on the subject of absconding was read, suggesting that the following subject be discussed at the meeting. "The inadequacy of facilities for procuring and signing warrants for the arrest of bolted coolies."

Mr. Irving considers the matter of great urgency and gives instances of hardship under which estates at a distance from head quarters suffered.

Mr. Skinner proposed and *Mr. Prior* seconded that the subject be referred to the Standing Committee.

15. Rail Freights.

A letter from the Secretary Kuala Selangor D. P. A. to the Secretary P. A. M. was read, asking that the subject of Reduction on Rail freights be discussed.

Mr. Irving asks for this matter to stand over till the next meeting.

16. Dressers on Estates.

A letter from the Secretary Batang Padang D. P. A. to the Secretary P. A. M. was read, in which was suggested the urgent necessity of a Government register of Dressers qualified to take charge of estate hospitals, such dressers to receive a certificate of competence.

Mr. Stewart showed the necessity of registration and proposed that the matter be placed before the P. M. O. This was seconded by *Mr. Farquharson* and carried.

17. Currency.

Mr. McCulloch drew attention to the disappearance of quarter and half cent pieces from the currency and thought that if these were issued, the coolies, who were inclined to think in the least coin would tend to reduce his present large ideas. He did not propose any resolution.

The meeting terminated at 1 p.m.

(Sgd.) H. C. E. Zacharias,
Secretary.

DEPARTMENT NOTES.

Mr. P. B. Richards, 2nd Assistant Entomologist, Department of Agriculture, F. M. S. assumed his duties on 23rd June, 1914 (Vide A. B. Vol. II No. 10 p. 288).

Mr. D. H. Grist, has been appointed as Agricultural Instructor, Department of Agriculture, F. M. S.

Mr. S. W. Bunker, Assistant Government Analyst, Singapore, has been appointed as 2nd Assistant Chemist, Department of Agriculture, F. M. S. He arrived and assumed his duties on 7th July, 1914.

FEDERATED MALAY STATES.

Comparative Statement of Cultivated Rubber Exported, with Value and Duty Collected Thereon, during the Years 1914 and 1913.

Destination.	Exported during April, 1914.	Previously.	Total export during the year.	Export during similar period of previous year.	Increase.	Decrease.	Value of rubber exported, 1914.	Duty collected, 1914, to date.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	$	$ c.
Straits Settlements ...	1,131.76	3,858.00	4,989.76	3,053.63	1,936.13	...	8,771,424	217,922.61
United Kingdom ...	817.69	2,860.33	3,678.02	3,529.17	148.85	...	6,568,448	164,211.20
Continent of Europe ...	85.92	357.10	443.02	452.51	...	9.49	803,518	20,087.95
Ceylon	65.34	198.84	264.18	216.40	47.78	...	255,279	6,381.92
Other Countries ...	50.74	49.53	100.27	...	100.27	...	413,498	10,362.45
Total ...	2,151.45	7,323.80	9,475.25	7,251.71	2,233.03	9.49	16,812,167	418,966.13

KUALA LUMPUR,
5th May, 1914.

H. W. FIRMSTONE,
Acting Commissioner, Trade and Customs, F.M.S.

Abstract of Meteorological Readings in the various Districts of Malaya for the Month of April, 1914.

DISTRICT.	Mean Barometrical Pressure at 32° Fah.	Maximum in Sun.	Temperature.				Hygrometer.				Prevailing Direction of Winds.	Total Rainfall.	Greatest Rainfall during 24 hours.
			Mean Dry Bulb.	Maximum.	Minimum.	Range.	Mean Wet Bulb.	Vapour Tension.	Dew Point.	Humidity.			
Kelantan, Kota Bahru	...	151.	84.	92.73	74.56	18.16	79.3	.903	76.2	.77%	...	1.72	.72
Malacca, Durian Daun Hos.	29.887	154.8	81.	88.8	71.8	17.	79.3	.961	...	.86	N.	12.	2.56
N. Sembilan, Dist. Hospital Seremban	...	151.4	79.4	90.4	71.8	18.6	76.	.824	73.5	.82	N.W.	13.95	2.22
,, Dist. Hos. K. Pilah	...	154.7	79.5	...	...	...	76.3	.849	74.1	.84	...	10.22	1.75
,, ,, Tampin	...	149.3	81.	...	...	...	77.	.851	74.3	.80	...	5.33	1.75
,, ,, P. Dickson	...	160.1	82.4	89.	74.8	14.2	78.1	.880	75.3	.79	...	8.91	1.00
Pahang, ,, K. Lipis	...	...	82.	91.6	72.7	18.9	76.2	...	...	...	...	5.81	2.00
Penang, ,, Penang	29.820	148.9	83.9	90.7	74.1	16.6	78.5	.907	73.5	.78	...	7.37	2.55
Perak, ,, Taiping	...	109.	81.44	93.	70.	23.	77.59	.894	...	.85	...	21.97	3.25
,, ,, Ipoh	...	...	81.63	92.	71.	21.	77.09	.868	...	.81	...	8.00	1.63
,, ,, T. Anson	...	...	82.11	93.	68.	25.	78.48	.924	...	.85	...	14.85	2.16
,, ,, P. Buntar	...	...	82.29	92.	72.	20.	78.26	.912	...	.83	...	7.25	1.82
,, The Cottage	...	...	...	...	...	...	...	...	...	...	...	12.32	1.97
Selangor, General Hospital Kuala Lumpur	...	119.1	80.	89.7	70.7	19.	77.1	.875	75.1	.85	S.E.	11.30	2.70
,, Dist. Hos. Klang	...	...	80.8	86.4	75.4	11.	77.8	...	...	...	...	10.43	2.23
,, ,, K. Selangor	...	...	...	87.7	73.7	14.	...	...	...	...	...	6.36	2.78
,, ,, Rawang	...	...	...	91.3	72.9	18.4	...	...	...	...	...	13.51	2.10
Singapore, Kandang Kerbau Observatory	29.915	160.	82.7	92.5	72.4	20.1	78.7	.929	...	82.1	S.E.	13.32	5.32